REMARKS

This response for request for reconsideration is in response to the Official Action dated July 14, 2005. The application includes Claims 1-28 with Claims 1, 26 and 28 being the only independent claims. Favorable reconsideration, in view of the accompanying remarks, is respectfully requested.

In the Official Action the Examiner has rejected Claims 1-3 and 7-28 under the provisions of 35 U.S.C. 102(b) as being anticipated by WO 99/37939. These rejections are respectfully traversed in view of the following reasons.

The Examiner's conclusions in the Final Office Action do not represent a fair interpretation of the actual teaching in cited reference WO 99/37939. Rather than assessing what cited reference WO 99/37939 actually teaches, the Examiner appears to make a number of unfounded assumptions about how the disc brake disclosed in reference WO 99/37939 supposedly operates, and those assumptions have clearly been drawn in light of the present invention.

The arrangement in prior art reference WO 99/37939 is basically concerned with providing a disc brake actuator in which the "problems relating to transverse or radial loadings are circumvented or at least alleviated." (See WO 99/37939 at page 1, lines 27-28). The prior art arrangement solves this problem by providing a "resilient intermediate pressure means" provided between a force-generating screw mechanism and the brake actuation member. (See WO 99/37939 at page 1, lines 28-29).

Importantly, regarding the stiffness of this "resilient intermediate pressure means", cited reference WO 99/37939 explicitly states at page 1, line 31 to page 2, line 2:

"Thus, its stiffness in axial direction should be rather high. In particular, the (axial) stiffness should be maintained at a level where the required force/displacement relationship still provides the possibility to obtain the desired actuation force."

The significant feature of the "resilient intermediate pressure means" as far as the teaching of cited reference WO 99/ 37939 is concerned is stated at page 2, lines 5-9. Namely, that:

"...extreme loadings, which have a certain transverse component or bending

moment, are not directly or fully transmitted towards the screw mechanism. The resilient aspect of the force transmission between screw mechanism and actuating member makes these transverse or bending loadings less severe or even absent."

Thus, in cited reference WO 99/37939, the *resilient* aspect of the "intermediate pressure means" between the screw mechanism and the actuating member is designed to make any transverse or bending loadings less severe or even absent. (See page 2, lines 7-9).

In the embodiment of cited reference WO 99/37939 considered relevant to the present invention (Fig. 3), the "intermediate pressure means" comprises a hydraulic pressure pad (36) having two parallel walls (41, Fig. 2) connected at their circumference (42) and enclosing an internal space filled with a hydraulic fluid (43). This hydraulic fluid also fills a channel (51) in communication with the internal space of the pressure pad (36), with the hydraulic fluid acting upon a load measuring device (50).

The liquid-filled pressure pad (36) thereby operates to provide an even distribution of the axial actuation force to the actuating piston (35), even though the nut (39) of the screw mechanism (10) may not be in perfect parallel alignment with the piston (35). That is, the pressure pad (36) is able to compensate for any such misalignment or transverse loadings.

However, the specification clearly states at page 1, line 31 to page 2, line 2 that the axial stiffness of the pressure pad should be sufficiently high to obtain the desired actuating force - and this would of course be expected from a hydraulic member, as hydraulic elements are essentially incompressible.

There is absolutely no hint, teaching or suggestion in cited reference WO 99/37939 that the hydraulic pressure pad (36) is designed to deform so that only a *limited* axial force is transmitted by the pad (36). Limiting the axial force in the device of cited reference WO 99/37939 would be contrary to its teachings and make no sense because this would give a wrong measurement result (note that cited reference WO 99/37939 does not mention that the force sensor (50) has to be protected from too high a load). The Examiner has drawn this false conclusion merely because it suits his *ex*

post facto analysis of this prior art reference.

Thus, the main issue in the present case is that in cited reference WO 99/37939 the hydraulic fluid filling the pressure pad (36) and communicating with the force sensor (50) will **not** undergo any significant axial compression, and will thereby enable the actuating force to be transmitted through the hydraulic pressure pad (36) to the actuating piston (35).

Not only is the specification of cited reference WO 99/37939 silent with this respect to any supposed deformation of the pressure pad (36), it actually teaches the contrary - i.e., it teaches that the "intermediate pressure means" is **axially stiff** in order to ensure good transmission of the desired actuating force.

Moreover, the Examiner states that in the Official Action in paragraph 5:

"The pressure pad clearly will compress and once the end of the groove is reached, no additional force will be applied because it will reach the maximum amount of compression and therefore, the maximum force is limited."

However, there is also no disclosure, teaching or suggestion in cited reference WO 99/37939 that the walls (41) of the pressure pad (36) deform to enable the nut (39) of the screw mechanism (10) to reach the end of the grooves (39'), as alleged by the Examiner. As the hydraulic fluid itself is essentially incompressible, a deformation of the walls (41) of the pressure pad (36) would be necessary to effect any axial compression of the pressure pad (36), but such deformation is not **disclosed** in cited reference WO 99/37939.

Therefore, a person of ordinary skill in the art would not conclude that cited reference WO 99/37939 teaches a means for limiting a maximum component of force acting upon the force transducer during the generation of the brake disk clamping force.

Furthermore, a person of ordinary skill in the art would certainly not conclude that cited reference WO 99/37939 discloses an arrangement having a "second force transmission path" arranged between the actuator and the brake screw for bypassing the force sensor device (50).

Summarizing, cited reference WO 99/37939 does not include any teaching or

suggestion that the force acting on the force sensor device (50) is limited in any way. To the contrary, limiting the force would falsify the measuring result of the force sensor device (50) in higher force regions. It would have to be expected that if the ends of the grooves (39') could ever be reached and if in such situations the force would actually be limited, a corresponding remark could have been found in cited reference WO 99/37939. The absence of such a remark is clear evidence of the inadmissible hindsight applied by the Examiner.

In view of the above remarks, it is believed that Claim 1, which recites in part that the disc brake includes at least one force transducer disposed in a first force transmission path between the actuator device and at least one of the brake shoes, *wherein a maximum component of force acting upon the force transducer upon generating of the clamping force is limited*, is patentable over the cited references. (Emphasis added). Accordingly, it is believed that Claim 1, along with dependent Claims 2-25, are patentable over the cited references.

Independent Claim 26 includes similar subject matter and limitations as that found in Claim 1 and Claim 26 specifically recites in part that the disc brake includes a *force limiting assembly for limiting the force acting upon the force transducer upon generation of the clamping force* (emphasis added). Thus, for reasons similar to those discussed above with respect to Claim 1, it is believed that Claim 26 is patentable over the cited references.

Independent Claim 27 defines the invention as a disc brake and recites in part that the disc brake has a *first force transmission path* arranged between the actuator and at least one of the brake shoes; a *force sensing element disposed in the first force transmission path*; and *a second force transmission path* arranged between the actuator and at least one of the brake shoes, *the second force transmission path bypassing the force sensing element*, as recited in Claim 27 (emphasis added). For the reasons discussed above, none of the cited references, alone or in combination, discloses or suggests such a disc brake structure as recited in Claim 27. Accordingly, it is believed that Claim 27, along with dependent Claim 28, are patentable over the cited references.

In view of the above remarks, it is believed that the application is in condition for allowance. However, if the Examiner does not believe that the above remarks place the application in condition for allowance, or if the Examiner has any comments or suggestions, it is requested that the Examiner contact Applicant's attorney at (419) 255-5900 to discuss the application prior to the issuance of an action in this case by the Examiner.